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SEQUENCE LISTING

TECH CENTER 1600/2900

<110> Murphy, Dennis
Reid, John

<120> ALPHA GALACTOSIDASES AND METHODS FOR
MAKING AND USING THEM (Amended)

<130> 09010-004005

<140> US 09/886,400

<141> 2001-06-20

<150> US 09/407,806

<151> 1999-09-28

<150> US 08/613,220

<151> 1996-03-08

<160> 4

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetically generated oligonucleotide

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52

<210> 2

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

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<210> 3

<211> 1095

<212> DNA

<213> Thermococcus alcaliphilus

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ccttttgggc tcaacataac gggctatacc ttaaagttcc tcccgaagga tattatagac 180
ctcgttaaag ggggcatcgc gagtgcctg atagagataa tcggaacgag ctacacgcac 240
gcaataactcc ccctcctgcc gcttagcaga gtagaagcac aagttcagag agatagggaa 300

gttaaggaag	agctcttcga	ggtttctcca	aagggattct	ggctgccaga	gctcgcctat	360
gacccgataa	tccttgccat	actgaaggac	aacggttatg	agtatctatt	cgccgacggg	420
gaggcgatgc	ttttctcagc	tcattctcaac	tcggcgataa	agccaattaa	accgctctat	480
ccacacctta	taaaggccca	aagggaaaag	cgctttaggt	acatcagcta	tctccttggt	540
ctcagggagc	ttaggaaggc	gataaagctc	gtttttgaag	gtaaggtaac	gctaaaggca	600
gtcaaagaca	tcgaagccgt	acccgtttgg	gtggccgtga	acacggctgt	aatgctcggc	660
atcggaaggc	ttcctcttat	gaatcctaag	aaagtggcga	gctggataga	ggacaaggac	720
aacattcttc	tatacggcac	cgatatagag	ttcattggct	atagggacat	tgcaggctac	780
agaatgagtg	ttgagggatt	attagagggt	atagacgagc	tcaactcgga	actgtgcctt	840
ccctcagagc	tgaagcacag	tggaagggag	ctctacttac	ggacttcgag	ttgggcacca	900
gataaagagct	tgaggatatg	gagagaggac	gaagggaacg	caagacttaa	tatgctgtcc	960
tacaatatga	ggggcgaaact	cgctttttta	gccgagaaca	gcgatgcaag	gggatgggag	1020
cccctccctg	agaggagggt	ggatgccttc	cgggcgatat	ataacgattg	gaggggtgaa	1080
aatggggaac	cttag					1095

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<211> 364

<212> PRT

<213> Thermococcus alcaliphilus

<400> 4

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 Lys Ser Glu Ile Pro Lys Val Ile Glu Lys Ala Tyr Ile Pro Val Ile
 20 25 30
 Glu Thr Leu Ile Lys Glu Glu Ile Pro Phe Gly Leu Asn Ile Thr Gly
 35 40 45
 Tyr Thr Leu Lys Phe Leu Pro Lys Asp Ile Ile Asp Leu Val Lys Gly
 50 55 60
 Gly Ile Ala Ser Asp Leu Ile Glu Ile Ile Gly Thr Ser Tyr Thr His
 65 70 75 80
 Ala Ile Leu Pro Leu Leu Pro Leu Ser Arg Val Glu Ala Gln Val Gln
 85 90 95
 Arg Asp Arg Glu Val Lys Glu Glu Leu Phe Glu Val Ser Pro Lys Gly
 100 105 110
 Phe Trp Leu Pro Glu Leu Ala Tyr Asp Pro Ile Ile Pro Ala Ile Leu
 115 120 125
 Lys Asp Asn Gly Tyr Glu Tyr Leu Phe Ala Asp Gly Glu Ala Met Leu
 130 135 140
 Phe Ser Ala His Leu Asn Ser Ala Ile Lys Pro Ile Lys Pro Leu Tyr
 145 150 155 160
 Pro His Leu Ile Lys Ala Gln Arg Glu Lys Arg Phe Arg Tyr Ile Ser
 165 170 175
 Tyr Leu Leu Gly Leu Arg Glu Leu Arg Lys Ala Ile Lys Leu Val Phe
 180 185 190
 Glu Gly Lys Val Thr Leu Lys Ala Val Lys Asp Ile Glu Ala Val Pro
 195 200 205
 Val Trp Val Ala Val Asn Thr Ala Val Met Leu Gly Ile Gly Arg Leu
 210 215 220
 Pro Leu Met Asn Pro Lys Lys Val Ala Ser Trp Ile Glu Asp Lys Asp
 225 230 235 240
 Asn Ile Leu Leu Tyr Gly Thr Asp Ile Glu Phe Ile Gly Tyr Arg Asp
 245 250 255
 Ile Ala Gly Tyr Arg Met Ser Val Glu Gly Leu Leu Glu Val Ile Asp
 260 265 270
 Glu Leu Asn Ser Glu Leu Cys Leu Pro Ser Glu Leu Lys His Ser Gly
 275 280 285

all
 cont

Arg Glu Leu Tyr Leu Arg Thr Ser Ser Trp Ala Pro Asp Lys Ser Leu
 290 295 300
 Arg Ile Trp Arg Glu Asp Glu Gly Asn Ala Arg Leu Asn Met Leu Ser
 305 310 315 320
 Tyr Asn Met Arg Gly Glu Leu Ala Phe Leu Ala Glu Asn Ser Asp Ala
 325 330 335
 Arg Gly Trp Glu Pro Leu Pro Glu Arg Arg Leu Asp Ala Phe Arg Ala
 340 345 350
 Ile Tyr Asn Asp Trp Arg Gly Glu Asn Gly Glu Pro
 355 360
